IN THE CLAIMS:

1. (currently amended) An ultrasonic pulse transmission method comprising:

defining a plurality of frames wherein each of the plurality of frames is spaced from an adjacent frame of the plurality of frames with respect to a first direction, wherein the first direction is non-parallel to a second direction along which ultrasonic pulse transmission are conducted; and

when P ultrasonic pulse transmissions are conducted in [[one]] the second direction to acquire a first acoustic line signal that belongs to a first frame of the plurality of frames, interleaving, between the P ultrasonic pulse transmissions conducted in the second direction ~~to acquire the first acoustic line signal~~, at least one ultrasonic pulse transmission for acquiring a second acoustic line signal that belongs to a second frame of the plurality of frames that is different from the first frame.

2. (currently amended) The ultrasonic pulse transmission method of claim 1, further comprising: when a number of interleaves I (≥ 2) is defined, (I – 1) acoustic line signals that belong to (I - 1) frames are acquired by interleaving ultrasonic pulse transmissions for acquiring the (I - 1) acoustic line signals ~~that belong to (I – 1) frames different from the first frame to which said first acoustic line signal belongs~~ between the ultrasonic pulse transmissions in ~~said one~~ the second direction, wherein each of the (I – 1) frames is different from the first frame.

3. (currently amended) The ultrasonic pulse transmission method of claim 1, further comprising: electronically changing the ultrasonic pulse transmission direction among acoustic line signals that belong to [[the]] a same frame of the plurality of frames, and also electronically changing the ultrasonic pulse transmission direction among acoustic line signals that belong to different frames of the plurality of frames.

4. (currently amended) The ultrasonic pulse transmission method of claim 1, further comprising: electronically changing the ultrasonic pulse transmission direction among acoustic line signals that belong to [[the]] a same frame of the

plurality of frames, and mechanically changing the ultrasonic pulse transmission direction among acoustic line signals that belong to different frames of the plurality of frames.

5. (original) The ultrasound pulse transmission method of claim 1, further comprising: conducting ultrasonic pulse transmissions simultaneously in different directions to simultaneously acquire a plurality of acoustic line signals.

6. (original) The ultrasonic pulse transmission method of claim 1, further comprising: acquiring acoustic line signals containing flow information.

7. (currently amended) An ultrasonic diagnostic apparatus comprising:

an ultrasonic probe;

a number-of-frames defining device for defining a ~~number~~ plurality of frames [[*f*]], wherein each frame of the plurality of frames is spaced from an adjacent frame of the plurality of frames with respect to a first direction, wherein the first direction is non-parallel to a second direction along which ultrasonic transmissions are driven;

a transmitting/receiving device for driving said ultrasonic probe to conduct P ultrasonic pulse transmissions in [[one]] the second direction and receive echoes to acquire a first acoustic line signal that belongs to a first [[one]] frame of the plurality of frames, wherein P is at least equal to two; and

a transmission direction control device configured to control the transmission direction to interleave, between the P ultrasonic pulse transmissions conducted in the second direction to acquire the first acoustic line signal, at least one ultrasonic pulse transmission to acquire a second acoustic line signal that belongs to a second [[one]] frame of the plurality frames that is different from the first ~~one of the frames~~ frame.

8. (previously presented) The ultrasonic diagnostic apparatus of claim 7, wherein said apparatus comprises a number-of-interleaves defining device for defining a number of interleaves I ($\geq$ 2), and said transmission direction control device controls the transmission direction to interleave ultrasonic pulse transmissions for acquiring (I - 1) acoustic line signals that belong to (I - 1) frames of the plurality of frames ~~different from the first one of the frames to which said first acoustic line~~

~~signal belongs~~ between the ultrasonic pulse transmissions in ~~said one~~ the second direction, wherein the (I-1) frames are each different from the first [[one]] frame of the plurality of frames ~~to which said first acoustic line signal belongs~~.

9. (previously presented) An ultrasonic diagnostic apparatus comprising:

an ultrasonic probe;

a number-of-frames defining device for defining a number of frames f;

a transmitting/receiving device for driving said ultrasonic probe to conduct P ultrasonic pulse transmissions in one direction and receive echoes to acquire a first acoustic line signal, wherein P is at least equal to two;

a transmission direction control device for controlling the transmission direction in an intra-frame mode in which the transmission direction is controlled to interleave at least one ultrasonic pulse transmission for acquiring a second acoustic line signal that belongs to the frame to which said first acoustic line signal belongs between the ultrasonic pulse transmissions in said one direction, or in an inter-frame mode in which the transmission direction is controlled to interleave at least one ultrasonic pulse transmission for acquiring a third acoustic line signal that belongs to a frame different from that to which said first acoustic line signal belongs between the ultrasonic pulse transmissions in said one direction; and

an interleave mode selecting device for an operator to select between said intra-frame mode and inter-frame mode.

10. (previously presented) The ultrasonic diagnostic apparatus of claim 9, wherein said apparatus comprises a number-of-interleaves defining device for defining a number of interleaves I ($\geq$ 2), and said transmission direction control device controls the transmission direction to interleave ultrasonic pulse transmissions for acquiring (I - 1) other acoustic line signals that belong to the frame to which said first acoustic line signal belongs between the ultrasonic pulse transmissions in said one direction, or to interleave ultrasonic pulse transmissions for acquiring (I - 1) acoustic line signals that belong to (I - 1) frames different from the frame to which

said first acoustic line signal belongs between the ultrasonic pulse transmissions in said one direction.

11. (currently amended) The ultrasonic diagnostic apparatus of claim 7, wherein said ultrasonic probe is a two-dimensional array ultrasonic probe, and said transmission direction control device electronically changes the ultrasonic pulse transmission direction among acoustic line signals that belong to [[the]] a same frame of the plurality of frames, and also electronically changes the ultrasonic pulse transmission direction among acoustic line signals that belong to different frames of the plurality of frames.

12. (currently amended) The ultrasonic diagnostic apparatus of claim 7, wherein said apparatus comprises a mechanism that can mechanically change orientation of said ultrasonic probe in a direction orthogonal to a frame of the plurality of frames, and said transmission direction control device electronically changes the ultrasonic pulse transmission direction among acoustic line signals that belong to [[the]] a same frame of the plurality of frames, and mechanically changes the ultrasonic pulse transmission direction among acoustic line signals that belong to different frames of the plurality of frames.

13. (previously presented) The ultrasonic diagnostic apparatus of claim 7, wherein said transmitting/receiving device conducts ultrasonic pulse transmissions simultaneously in different directions to simultaneously acquire a plurality of acoustic line signals.

14. (previously presented) The ultrasonic diagnostic apparatus of claim 7, wherein said transmitting/receiving device acquires acoustic line signals containing flow information.

15. (previously presented) The ultrasonic diagnostic apparatus of claim 9, wherein said ultrasonic probe is a two-dimensional array ultrasonic probe, and said transmission direction control device electronically changes the ultrasonic pulse transmission direction among acoustic line signals that belong to the same frame, and also electronically changes the ultrasonic pulse transmission direction among acoustic line signals that belong to different frames.

16. (previously presented) The ultrasonic diagnostic apparatus of claim 9, wherein said apparatus comprises a mechanism that can mechanically change orientation of said ultrasonic probe in a direction orthogonal to a frame, and said transmission direction control device electronically changes the ultrasonic pulse transmission direction among acoustic line signals that belong to the same frame, and mechanically changes the ultrasonic pulse transmission direction among acoustic line signals that belong to different frames.

17. (previously presented) The ultrasonic diagnostic apparatus of claim 9, wherein said transmitting/receiving device conducts ultrasonic pulse transmissions simultaneously in different directions to simultaneously acquire a plurality of acoustic line signals.

18. (previously presented) The ultrasonic diagnostic apparatus of claim 9, wherein said transmitting/receiving device acquires acoustic line signals containing flow information.

19. (previously presented) The ultrasonic pulse transmission method of claim 1, further comprising: defining P to be at least equal to two.

20. (previously presented) The ultrasonic diagnostic apparatus of claim 7, wherein said apparatus comprises a display device for displaying at least one of a color flow data image and a B-flow data image.